

WHAT IS CLAIMED:

5 *Sub a1* 1. An integrated circuit with a micromechanical element comprising a support substrate supporting a sensor element, a logic circuit and a semiconductor visual display element, the sensor element electrically connected to a logic circuit, and the logic circuit being electrically connected to the semiconductor visual display element.

10 2. The integrated circuit of claim 1 wherein said semiconductor display element comprises an array of light-emitting pn junctions.

3. The integrated circuit of claim 2 wherein said light-emitting pn junctions comprise GaAs light-emitting pn junctions.

20 *Sub a2* 4. The integrated circuit of claim 1 wherein said visual display element comprises an array of semiconductor pixels having dimensions of less than 20 micrometers.

5. The integrated circuit of claim 2 wherein said visual display element comprises an array of semiconductor pixels having dimensions of less than 20 micrometers.

6. The integrated circuit of claim 3 wherein said visual display element comprises an array of semiconductor pixels having dimensions of less than 20 micrometers.

25 7. The integrated circuit of claim 1 wherein said sensor element is selected from the group consisting of strain gauges, thermal gauges, radiation gauges, and chemically responsive gauges.

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8. A process for the manufacture of an integrated circuit with a micromechanical element, said integrated circuit comprising a support substrate, and at least three elements on said support comprising a sensor element electrically connected to a logic circuit, and the logic circuit electrically connected to a semiconductor visual display element, said process comprising:
- a) providing a support substrate,
- b) forming at least two elements selected from the group consisting of a micromechanical sensor element, a logic circuit and a semiconductor visual display element on said support, and
- 10 c) manufacturing a third element on said support substrate, said third element selected from the group consisting of a micromechanical sensor element, a logic circuit and a semiconductor visual display element which was not provided in step b).
- 15 9. The process of claim 8 wherein each of said at least three elements were formed on said support substrate.
10. The process of claim 8 wherein at least two of said at least three elements were formed on said support substrate by microlithographic processes.
- 20 11. The process of claim 10 wherein three elements were formed on said support substrate by microlithographic processes..